

FIG. 1

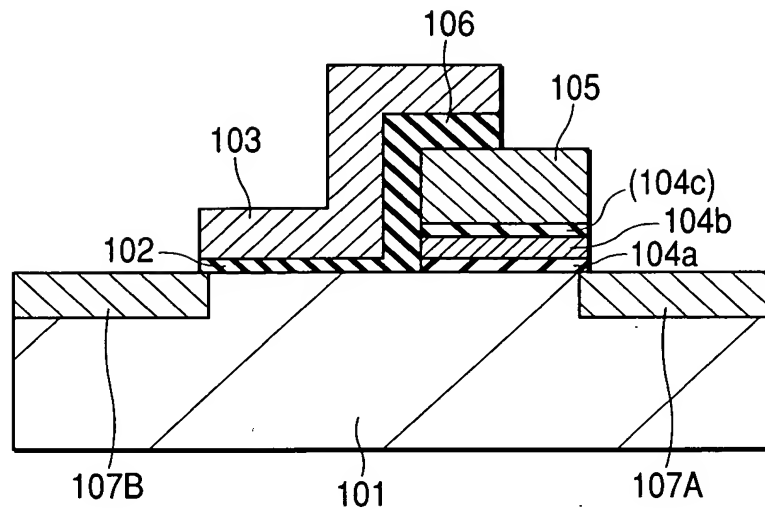


FIG. 2

| | Vsg | Vmg | Vs | Vd | Vwell | METHOD (TECHNIQUE) |
|----------------------|------------|----------|------|------|-------|-----------------------|
| WRITE (INJECTION) | $\sim V_t$ | 10V | 5V | 0V | 0V | SOURCE SIDE INJECTION |
| ERASE (DISCHARGE) | 0V | VARIABLE | 0V | 0V | 0V | TUNNELING |
| READ | 1.8V | 0V | 0V | 1.8V | 0V | REVERSE READ |
| | 1.8V | 0V | 1.8V | 0V | 0V | FORWARD READ |

FIG. 3

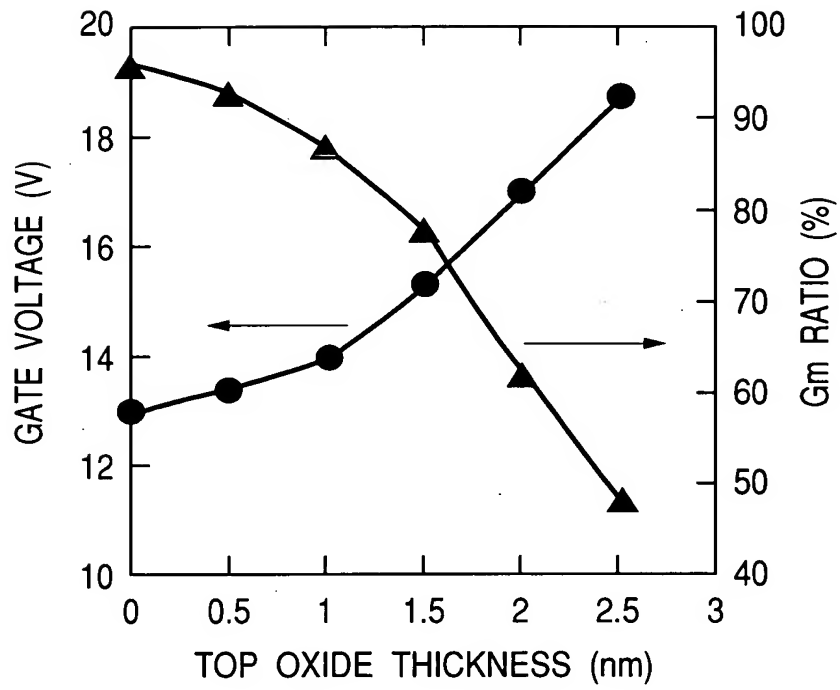
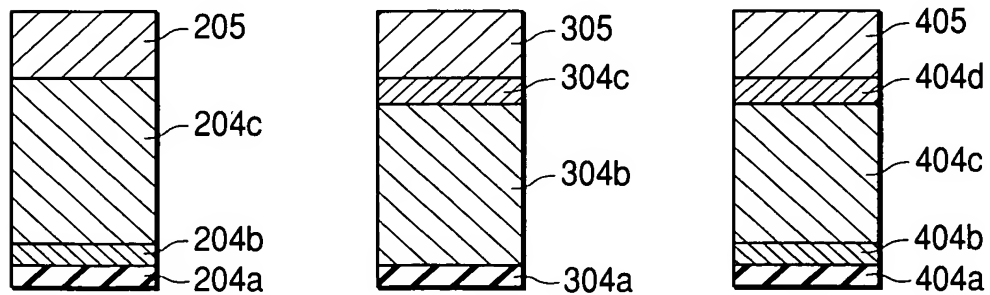


FIG. 4



3 / 8

FIG. 5

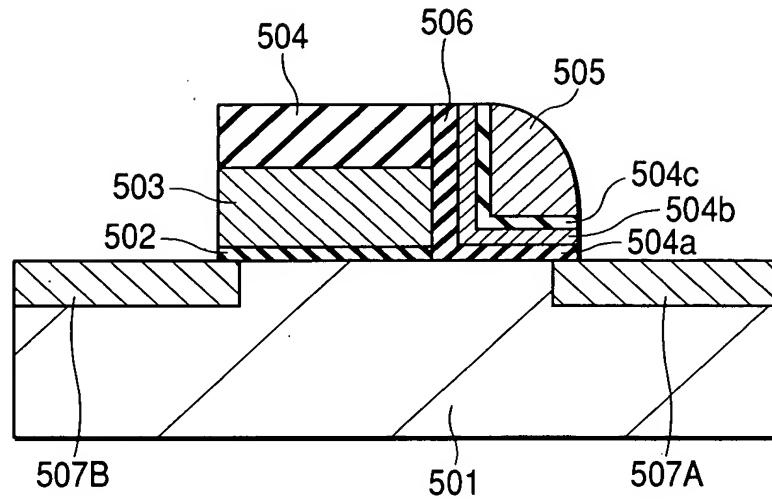


FIG. 6

| | Vsg | Vmg | Vs | Vd | Vwell | METHOD (TECHNIQUE) |
|----------------------|------------|-----|------|------|-------|-----------------------|
| WRITE (INJECTION) | $\sim V_t$ | 10V | 5V | 0V | 0V | SOURCE SIDE INJECTION |
| ERASE (DISCHARGE) | 0V | -6V | 0V | 5~7V | 0V | (HOT HOLE INJECTION) |
| READ | 1.8V | 0V | 0V | 1.8V | 0V | REVERSE READ |
| | 1.8V | 0V | 1.8V | 0V | 0V | FORWARD READ |

4 / 8

FIG. 7

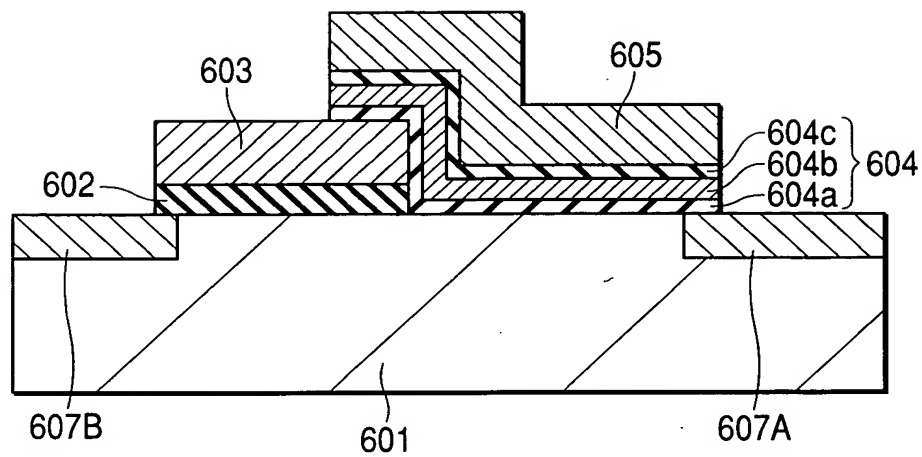


FIG. 8

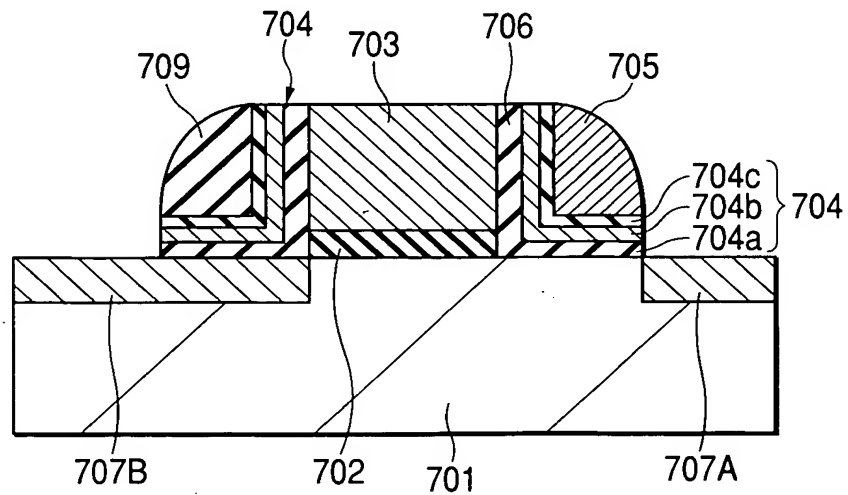


FIG. 9

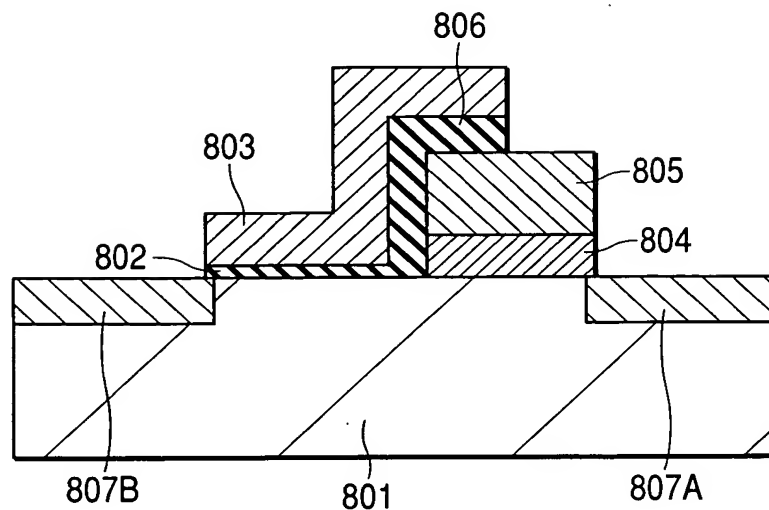


FIG. 10

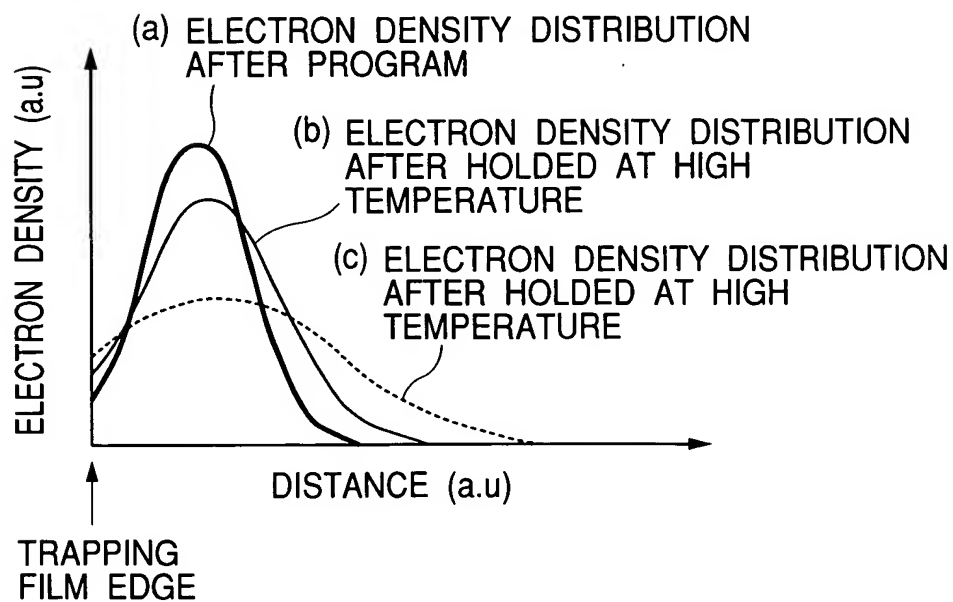


FIG. 11

| | STACK FILMS STRUCTURE | MAIN TRAPPING FILM | POTENTIAL BARRIER FILM | OXYGEN CONCENTRATION OF SiON FILM |
|---|---|--------------------|------------------------|-----------------------------------|
| 1 | SiO ₂ /SiON | SiON | NONE | |
| 2 | SiO ₂ /SiON/SiO ₂ | SiON | SiO ₂ | |
| 3 | SiO ₂ /SiON/SiN | SiON | NONE | |
| 4 | SiO ₂ /SiN/SiON | SiON | NONE | |
| 5 | SiO ₂ /SiON(1)/SiON(2) | (a) SiON(1) | NONE | SiON(1)>SiON(2) |
| | | (b) SiON(2) | NONE | |
| 6 | SiO ₂ /SiN(1)/SiON/SiN(2) | SiON | NONE | |
| 7 | SiO ₂ /SiON(1)/SiN/SiON(2) | (a) SiON(1) | NONE | SiON(1)>SiON(2) |
| | | (b) SiON(2) | NONE | |

FIG. 12

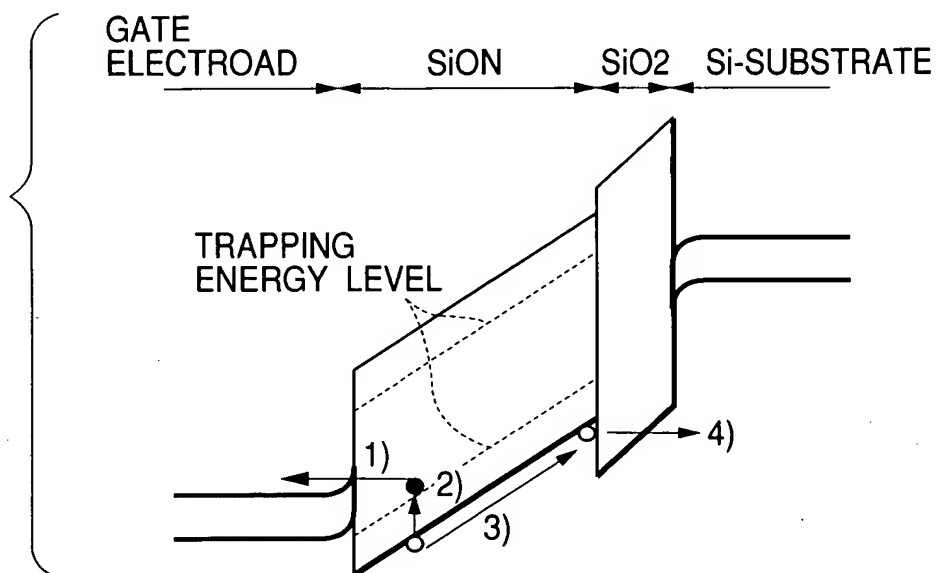


FIG. 13

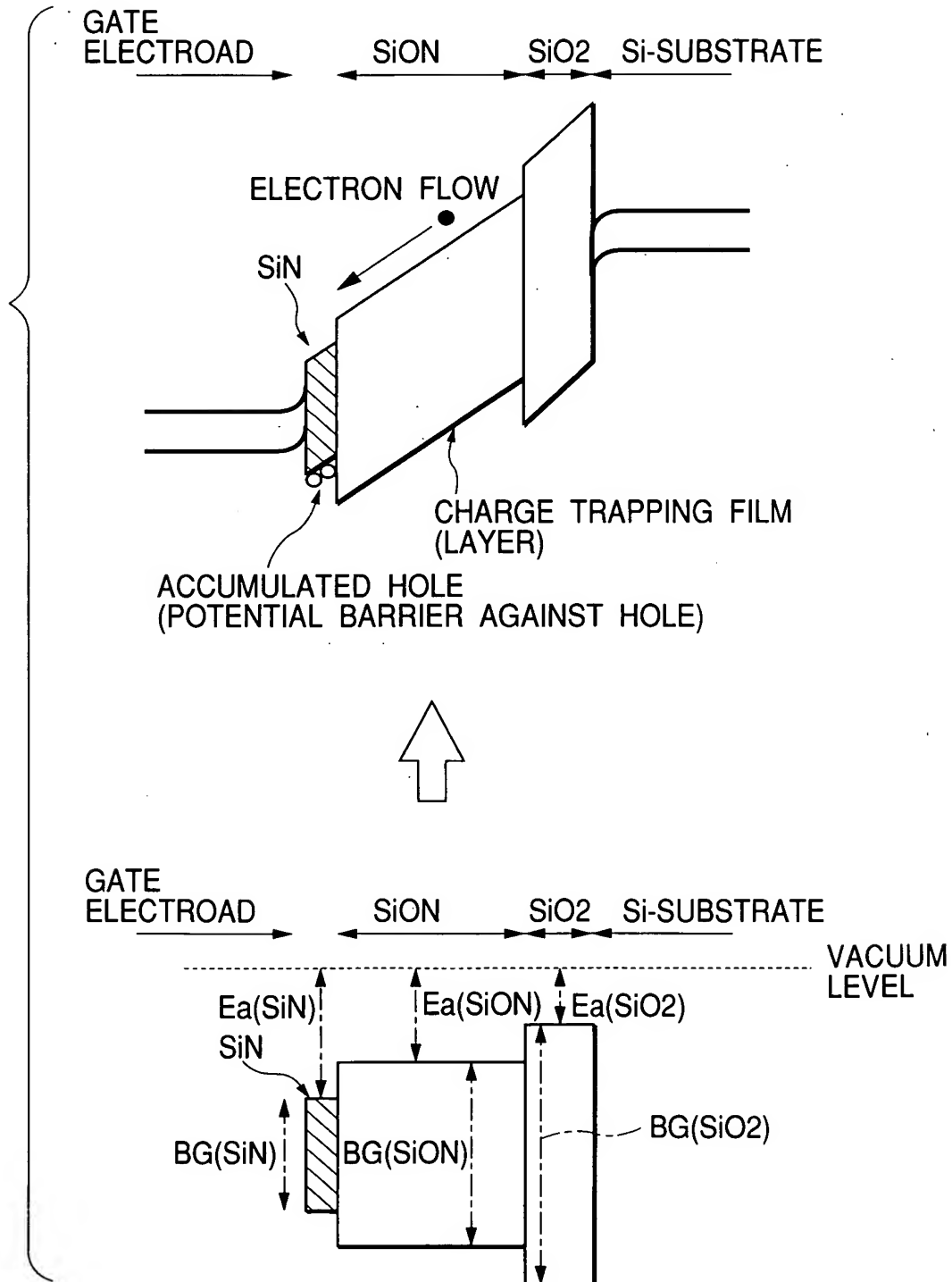


FIG. 14

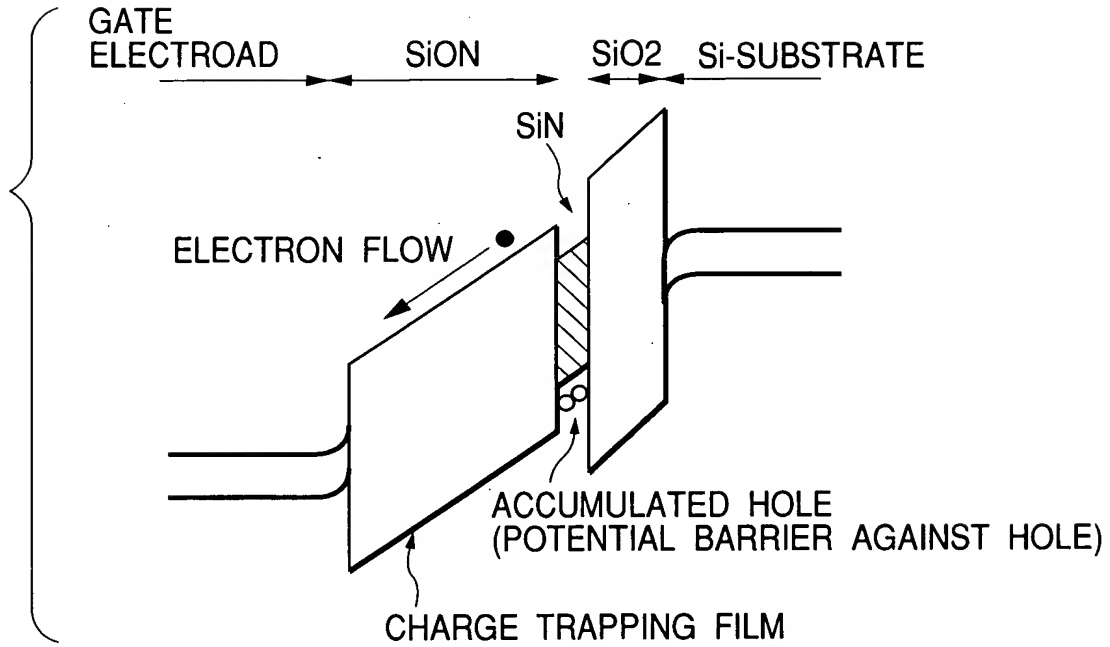


FIG. 15

